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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/674,289 | 10/30/2000 | Tapani Vuorinen | LAIN-033 | 6903 |

20374 7590 06/04/2003

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| EXAMINER |
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ALVO, MARC S

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| ART UNIT | PAPER NUMBER |
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1731

DATE MAILED: 06/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/674,289

Applicant(s)

VUORINEN

Examiner

Steve Alvo

Art Unit

1731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 and 22-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>13</u> . | 6) <input type="checkbox"/> Other. |

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8, 10, 12-14, 16-20 and 22-26 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Japanese Patent Application 9-132896 A (Applicant's translation is being relied upon).

Japanese Patent Application 9-132896 A teaches a method of producing a modified fiber by adding to cellulosic raw material (pulp fibers or natural fibers, see translation, page 5) components modifying the properties (wet-dispersability and strength) by adding components modifying the fiber properties (carboxymethyl cellulose (CMC) bonding agent, see page 4 of the translation) and sodium carbonate to convert the insoluble carboxymethyl cellulose to water-soluble carboxymethyl cellulose (page 4) by increasing the pH, and then letting the suspension mixture of fibers, carboxymethyl cellulose and sodium carbonate stand still before forming the suspension into paper (page 6). The carboxymethyl cellulose bonds to the fibers as it is still present in the sheets after formation, e.g. not washed out during papermaking, see translation, last paragraph of page 4. The pH of Example 1-3 of Japanese Patent Application 9-132896 A

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would be alkaline. Besides, the claims are not limited to using alkaline conditions, only being "water-soluble in mainly alkaline conditions". The modified fibers of Japanese Patent Application 9-132896 A would be "water-soluble in mainly alkaline conditions", see Japanese Patent Application 9-132896, translation, page 6, lines 2-4. If necessary it would have been obvious that the sodium carbonate raises the pH to alkaline as the CMC water mixture is 6.1 to which up to 400 weight % of sodium carbonate is added to the CMC/pulp mixture (TABLE 1, Example 1-3). Obviously adding 400 wt. % sodium carbonate would raise the pH from 6.1 to above 7.0 and at such alkaline pH's the fibers are described as highly water soluble (page 6, lines 2-4). Obviously the CMC of Japanese Patent Application 9-132896 A would be bonded to the raw material as it is disclosed by Japanese Patent Application 9-132896 A as being a bonding agent.

Claims 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Application 9-132896 A with or without JP 001,897/98 or JP 291,490/97A.

CMC having the polymerization levels of claims 9 and 21 are commonly used in the paper industry. If this is not obvious then such is taught by JP 001,897/98 or JP 291,490/97A.

Claims 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Application 9-132896 A with or without BATES (6,165,320) or RHA (5,354,424).

CMC belongs to the same family of cellulose esters as HPMC, HEMC and HBMC and would be obvious variants of each other. It would have been obvious to use the obvious variants HPMC, HEMC and HBMC for the CMC of Japanese Patent Application 9-132896 A. If this is not obvious, then BATES or RHA teaches the alternativeness of using hydroxy and carboxy celluloses. It would have been obvious to use a hydroxyl-cellulose for the carboxy-cellulose of

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Japanese Patent Application 9-132896 A as their alternative use in paper applications is taught by BATES or RHA, see RHA column 7, line 57 and claim 17, for HPMC.

Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Application 9-132896 A as applied to claim 1 above, and further in view of HASSI.

HASSI teaches that sizing agents such as CMC could be added during an alkaline peroxide bleach stage. It would have been obvious to add the modifying agents (bonding agents) of Japanese Patent Application 9-132896 A during a peroxide bleach stage as such is taught by HASSI.

Claims 1-20 and 22-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term “water-soluble in mainly alkaline conditions” is indefinite. Are the fibers soluble in all alkaline pH's? What is meant by “mainly alkaline conditions?”

The restriction requirement of Paper No. 8 is made Final and is repeated below:

Restriction to one of the following inventions is required under 35 U.S.C. § 121 and 372.

This application contains the following inventions or groups of inventions, which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in response to this action, to elect a single invention to which the claims must be restricted.

I. Claims 1-20 and 22-26, drawn to a process of producing a modified fiber.

II. Claim 21, drawn to a fiber product.

The inventions listed as Groups I and II do not relate to a single general concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

Claim 21 is either obvious over or anticipated by BATES. Accordingly, the special feature linking the two inventions, a fiber containing CMC, does not provide a contribution over the prior art, and no single general inventive concept exists. Therefore, restriction is appropriate.

Applicant is advised that the response to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 C.F.R. § 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a diligently-filed petition under 37 C.F.R. § 1.48(b) and by the fee required under 37 C.F.R. § 1.17(h).

Applicant's arguments are moot due to the new rejections.

When filing an **"Official"** FAX in Group 1730, please indicate in the Header (upper right) **"Official"** for papers that are to be entered into the file. The **"Official"** FAX phone numbers for this TC 1700 are:

Non-Final Fax: (703) 872-9310 After-Final FAX: (703) 872-9311.

When filing an **"Unofficial"** FAX in Group 1730, please indicate in the Header (upper right) **"Unofficial"** for Draft Documents and other Communications with the PTO that are not

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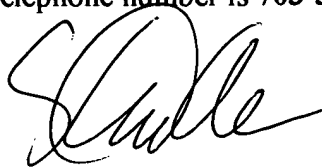
for entry into the file of the application. This will expedite processing of your papers. The “Unofficial” FAX phone number for this Art Unit (1731) is **(703) 305-7115**.

Any inquiry concerning this communication or earlier communications from the **primary examiner** should be directed to **Steve Alvo** whose telephone number is **(703) 308-2048**. The Examiner can normally be reached on Monday - Friday from **6:00 AM - 2:30 PM (EST)**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Stanley Silverman, can be reached on 703-308-3837.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **Group receptionist** whose telephone number is **703-308-0661**.

MSA
5/30/2003



STEVE ALVO
PRIMARY EXAMINER
ART UNIT 1731